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Early Warning Signals to Predict Islamic Bank Failure

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R e s e a r c h   H i g h l i g h t s

The paper empiricialy tests the use of various stability factors as early warning signals that can effectively predict the failure in Islamic banking institutions. These early warning signals enable the regulatory and supervisory authorities to take timely corrective action to safeguard the interest of fund providers such as depositors, investment account holders, creditors as well as other stakeholders. Using a 10-year panel data of 65 Islamic banks from 13 banking systems in the Middle East, North Africa, Asia and Europe, this study uses six stability indicators of CAMELS supervisory framework in a logistic model to see their effecitveness in predicting distress in Islamic banks. The model is then extended with the alternative capital are leverage ratios as well as macroeconomic variables in order to see whether simple leverage ratio offers better estimation results than the complex, risk weighted measures as debated by (Haldane, 2012).

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R e s e a r c h   O b j e c t i v e s

The objective of this paper is to study the effectivesss of various stability indicators such as capital adequacy, asset quality, profitability, management quality, liquidity, and risk sensitivity of assets to predict failure in Islamic banks. The predictive ability of regulatory capital ratio in signalling bank distress was questionned after it failed to perform effectively during the financial crisis (Mayes & Stremmel, 2012). In response, the Basel Committee on Banking Supervision (BCBS) introduced a non-risk weighted leverage ratio (Admati, 2014; Hildebrand, 2008). Accordingly, this paper examines alternative capital and leverage ratios that can be reliably used as early warning signals to predict Islamic bank failure (Admati, 2014; Hildebrand, 2008). Due to differences in product structure and operational models, the underlying risk in Islamic banks has unique charactersics not found in conventional banks (Beck, Demirgüç-kunt, & Merrouchec, 2013; Hasan & Dridi, 2011; IMF, 2017). Similarly, increasing size and significance of Islamic banks in many emerging makets requires the availability of a suitable toolkit that can be used for monitoring the Islamic bank stability and which can send early warning signal in case of impending problems. This paper aims to suggest the signficant factors that can be effectively used for this purpose.

Methodology

The methodology used to adopt the ADDIE model of the stage Implementation and Evaluation. At the stage of implementation of the tests on 30 new Master Information Engineering Master's West Sumatra criteria of Informatics who teaches under 5 years old.

Results

The results confirm that regulatory capital adequacy ratio, management quality, liquidity and sensitivity to risk are significant in predicting distres in Islamic banks and all have expected signs. The coefficient of capital components is highest, showing its strong predictive power on the log-odds of Islamic bank distress. The Pseudo R^2 is significant and goodness of fit parametes Hosmer-Lemeshow Chi^2 and Pearson Chi^2 are statistically significant at 5% and 1% levels respectively. Similarly, using the linear prediction technique with a cut-off point at 50% (Mayes & Stremmel, 2012) classifies 97% of distress in Islamic banks correctly predicted. The Pseudo R^2 is highest when market leverage is used as capital indicator followed by Tier 1 capital and tangible common equity ratios. In all three cases, Pseudo R^2 is higher than the base model where Basel capital adequacy ratio is considered as capital ratio. These three capital indicators are all significant and negatively signed as expected. For other indicators, liquidity and sensitivity to risk are significant. Another significant finding of this result is that Basel leverage ratio is not significant, which is in line with (Haldane, 2012). For macroeconomic variables, current account and GDP growth are statistically significant and have negative effect on Islamic bank distress.

Findings

The findings of this paper show that most of the standard stability indicators used in CAMELS framework are relevant for studying disterss in Islamic banking institutions. Most importantly, risk weighted capital ratios such as regulatory capital ratio, Tier 1 ratio and tangible common equity ratio are more relevant for Islamic banks than the use of newly introduced, non-risk weighted Base lIII leverage ratio. Liquidity factor is also quite

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significant. The paper also shows the relevance of sensitivity to risk factor as well as use of market based leverage indicator in using as an early warning indicator for distress in Islamic banks. Overall, the paper showed that CAMELS based primary model is quite significant and offers reliable and effective signals for distress in Islamic banks, even without adding additional macroeconomic variables.

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